CLAIMS

What is claimed:

1. A method for determining zero coding or run length coding, comprising:

in response to a selected bit to be processed with the clean up pass, executing an instruction to

identify state variables associated with selected coefficient bits to be processed;

identify state variables associated with horizontal and vertical neighboring bits of the selected bits to be processed;

determine whether state variables associated with coefficients bits and neighboring bits are zero; and

in response to state variables associated with coefficient bits and neighboring bits being all zero, select run length coding.

2. The method claimed in claim 1, wherein the state variables are significance state variables.

3. The method claimed in claim 1, further comprising:

in response to at least one state variable associated with coefficient bits and neighboring bits being non-zero, select zero coding.

4. The method claimed in claim 1, wherein the state variables correspond to an array of quantized coefficients being scanned.

5. The method claimed in claim 1, further comprising:

determine whether state variables associated with coefficients bits and neighboring bits are zero on every four pixels and in every bit plane.

6. The method claimed in claim 1, wherein the instruction is used for JPEG2000.

7. A system, comprising:

a memory;

a processor to execute an instruction to

identify state variables associated with selected coefficient bits to be processed;

identify state variables associated with horizontal and vertical neighboring bits of the selected bits to be processed;

determine whether state variables associated with coefficients bits and neighboring bits are zero; and

in response to state variables associated with coefficient bits and neighboring bits being all zero, select run length coding.

8. The system claimed in claim 7, wherein the state variables are significance state variables.

9. The system claimed in claim 7, further comprising:

in response to at least one state variable associated with coefficient bits and neighboring bits being non-zero, select zero coding.

10. The system claimed in claim 7, wherein the state variables correspond to an array of quantized coefficients being scanned.

11. The system claimed in claim 7, wherein the processor executes instruction compatible with JPEG2000.

12. The system claimed in claim 7, wherein the state variable is aligned in the processor's register set.

13. A machine readable medium having stored therein a plurality of machine readable instructions executable by a processor to determine zero coding or run length coding, comprising:

instructions to identify state variables associated with selected coefficient bits to be processed;

instructions to identify state variables associated with horizontal and vertical neighboring bits of the selected bits to be processed;

instructions to determine whether state variables associated with coefficients bits and neighboring bits are zero; and

in response to state variables associated with coefficient bits and neighboring bits being all zero, instructions to select run length coding.

14. The machine readable medium claimed in claim 13, wherein the state variables are significance state variables.

15. The machine readable medium claimed in claim 13, further comprising:

in response to at least one state variable associated with coefficient bits and neighboring bits being non-zero, instructions to select zero coding.

16. The machine readable medium claimed in claim 13, wherein the state variables correspond to an array of quantized coefficients being scanned.

17. The machine readable medium claimed in claim 13, further comprising:

instructions to determine whether state variables associated with coefficients bits and neighboring bits are zero on every four pixels and in every bit plane.

18. The machine readable medium in claim 13, wherein the instruction is used for JPEG2000.